U.S. EPA REQUEST TO PROVIDE INFORMATION PURSUANT TO THE CLEAN AIR ACT

NARRATIVE RESPONSE PROVIDED BY SAVOY ENGERGY L.P. OCTOBER 10, 2014

A.

A list of wells, a list of facilities, and a list of pipelines currently operated by Savoy Energy accompanies this response as pdf files named *Well List*, *Facility List*, and *Pipeline List*.
The list of wells includes all oil, gas, and salt water disposal wells operated by Savoy Energy.

The list of facilities includes the Central Production Facilities operated by Savoy Energy. (See State of Michigan DEQ Oil and Gas Regulations Part 615, R324.510, Rule 10 for Central Production Facility).

The pipelines list includes gathering lines operated by Savoy Energy (gathering line definition found in Part 192 of Pipeline Safety Regulations, PHMSA U.S. Department of Transportation). This pipeline list does not include production flow lines.

Mentioned lists were prepared by Savoy employee Dylan Foglesong.

B.1

A list of wells that supply the Adrian 25, Goetz 8, Warner 22, and Ruesink 16 facilities has been prepared. Included with this list are the drilling and first production dates. Savoy employee Sheri Chiappini prepared this list from internal records, it accompanies this response as a pdf file named *Facility Production.*

B.2

See pdf files named below. These files accompany this response.

- *Production Adrian 25*
- *Production Goetz 8*
- *Production Warner 22*
- *Production Ruesink 16*

These files contains the production history for the wells that supply the respective facilities. This information reflects Savoy's internal records. Savoy employee Sheri Chiappini prepared this summary.

B.3

Based on Ariel Performance Program (compressor manufacture's computer software) output, the current maximum gas compression rates for the Adrian 25, Goetz 8, Warner 22, and Ruesink 16 facilities are:

Adrian 25	1,700,000 scf gas per day (assumes suction pressure 20 psi and discharge press. 950 psi)
Ruesink 16	1,000,000 scf gas per day (assumes suction pressure 30 psi and discharge press. 250 psi)
Warner 22	1,200,000 scf gas per day (assumes suction pressure 30 psi and discharge press. 200 psi)
Goetz 8	2,500,000 scf gas per day (assumes suction pressure 30 psi and discharge press. 850 psi)

Tom Watt of Compressor and Engine Service LLC provided these figures. The mentioned Ariel Performance Program reports have been included with this response as a pdf file. The file name is *Ariel Performance*.

B.3 (continued)
Between December 2011 and October 2014 Savoy Energy L.P. operated the Goetz 8 CPF which included a Mechanical Refrigeration Unit (MRU) utilizing a refrigerant as part of the operation. Savoy installed and began operation of the MRU on December 15, 2011. This equipment was used to lower the temperature of the natural gas being produced to aid in making the produced natural gas marketable by removing natural gas liquids (NGL). It is Savoy's understanding that the presence and use of this equipment is what established the Goetz 8 CPF as a "natural gas processing facility". On October 2, 2014 the MRU equipment ceased being utilized at the Goetz 8 CPF. On that same day the MRU equipment was shipped back to Kinder Morgan, the leasing company that originally provided the equipment to Savoy. With this equipment removed the Goetz 8 CPF is no longer used to process natural gas. This paragraph was written and reviewed by Dylan Foglesong, William Sperry, and Thomas Pangborn.

Between April 2014 and October 2014 Savoy Energy L.P. operated the Adrian 25 CPF which included a Mechanical Refrigeration Unit (MRU) utilizing a refrigerant as part of the operation. Savoy installed and began operation of the MRU on April 8, 2014. This equipment was used to lower the temperature of the natural gas being produced to aid in making the produced natural gas marketable by removing natural gas liquids (NGL). It is Savoy's understanding that the presence and use of this equipment is what established the Adrian 25 CPF as a "natural gas processing facility". On October 3, 2014 the MRU equipment ceased being utilized at the Adrian 25 CPF. On that same day the MRU equipment was shipped back to Kinder Morgan, the leasing company that originally provided the equipment to Savoy. With this equipment removed, the Adrian 25 CPF is no longer used to process natural gas. This paragraph was written and reviewed by Dylan Foglesong, William Sperry, and Thomas Pangborn.

B.4 and B.5
The Adrian 25 and Goetz 8 facilities both have a Permit to Install (PTI), issued by the MDEQ Air Quality Division. See pdf file *MDEQ AQD PTI*, which accompanies this response letter. This file contains the PTI(s) and the associated application(s). The Warner 22 and Ruesink 16 do not have a MDEQ/AQD Permit to Install. Environmental Consulting Technologies (ECT) reviewed these facilities and determined that a PTI was not required.

B.6
A list of the tanks and storage vessels present at the Adrian 25 CPF, Goetz 8 CPF, Warner 22 CPF, and Ruesink 16 CPF has been compiled. There is a list for each facility, it includes a description, identification number, date of installation, capacity, type of material stored, and through put for each tank. The lists are being sent along with this response as pdf files with the following names:

- *Tank Count Adrian 25*
- *Tank Count Goetz 8*
- *Tank Count Ruesink 16*
- *Tank Count Warner 22*

Savoy employee Dylan Foglesong prepared this information, it was taken from internal construction and state permitting documents. Information confirmed with Savoy Operations Manager.

B.6 (Continued)
Wayne Cockrum of Environmental Consulting and Technology prepared crude oil tank VOC emission estimates for the Adrian 25 CPF, Goetz 8 CPF, Warner 22 CPF, and Ruesink 16 CPF. See pdf file *Tank Emission Estimate* which accompanies this response letter.

B. 7
Mike's Steamer Service was hired to change out the springs on the tank hatches mentioned below. The figures and dates below were taken from labor and material invoices. Savoy Cheri Chiappini researched this information.

Adrian 25 CPF: all tank hatch springs were changed from 4oz to 16oz; work completed 5/22/14
Goetz 8 CPF: all tank hatch springs were changed from 4oz to 16oz; work completed 5/27/14
Ruesink16 CPF: all tank hatch springs were changed from 4oz to 16oz; work completed 5/27/14
Warner 22 CPF: all tank hatch springs were changed from 4oz to 16oz; work completed 5/19/14

B.8
Mike's Steamer Service was hired to change out the tank pressure relief valves mentioned below. The figures and dates below were taken from labor and material invoices. Savoy Cheri Chiappini researched this information.

Adrian 25 CPF- Tank pressure relief valves were changed from 4oz to 16oz; work completed 5/22/14
Goetz 8 CPF- Tank pressure relief valves were changed from 4oz to 16oz; work completed 5/27/14
Ruesink 16 CPF- Tank pressure relief valves were changed from 4oz to 16oz; work completed 5/27/14
Warner 22 CPF- Tank pressure relief valves were changed from 4oz to 16oz; work completed 5/19/14

B.9
A list of compressors and glycol dehydrators, presently installed at the Adrian 25, Goetz 8, Warner 22, and Ruesink 16 CPF's has been compiled. Included with list are installation dates and throughput capacity. The compressor information was provided by Tom Watt of Compressor and Engine Service LLC. The Glycol Dehydration figures were provided by the respective manufacture's (Cameron and Exterran) technical documents. The list accompanies this response as a pdf file and is named *Compressors and Dehydrators*.

The Adrian 25, Goetz 8, Warner 22, and Ruesink 16 facilities have a large number of Pneumatic Controllers. These controllers have been inventoried. See pdf file named *Pneumatic Controllers* which accompanies this response letter. This information was provided by Mike's Steamer Service.

B.10
The Warner 22 CPF and the Ruesink 16 CPF do not have glycol dehydrators. The emission estimates generated using GLYCalc software for both the Goetz 8 CPF and Adrian 25 CPF glycol dehydrators can be found in the accompanying pdf file *Dehydrator Emission Estimates*. No potential to emit calculations have been performed for the glycol dehydrators at the Adrian 25 CPF or the Goetz 8 CPF.

B.11
A list of the emission control systems in place at the Adrian 25, Goetz 8, Warner 22, and Ruesink 16 facilities has been created. It accompanies this response as a pdf file named *Emission Control Systems*. Included with this list are installation dates, efficiency, and process unit descriptions. This list and related information was created by Savoy Employee Dylan Foglesong.

B.12
A copy of the Standard Operating Procedures for both Gulfmark Energy and Beckman Production are both contained in the pdf file *Trucking SOP.* This file is being submitted along with this response. Gulfmark Energy hauls crude oil from Savoy facilities. Beckman Services hauls produced brine water from Savoy's facilities.

B.13
Initial Compliance Reports for the Goetz 8 CPF and the Adrian 25 CPF were written by Environmental Consulting and Technology. The Reports are being sent with this response as pdf files, they are named *Goetz 8 ICR* and *Adrian 25 ICR* respectively.

B.14
A record of inspection of storage tanks at the Goetz 8 CPF and the Adrian 25 CPF is included with this response as a pdf file named *Record of Inspection.* Jodi Lindgren of Environmental Consulting and Technology authored this record. In addition, the IR camera images recorded during the inspection accompany this response as a Windows Media file named *IR Video.*

B.15
An emission inspection was conducted by Heather Crandall of Environmental Consulting and Technology on the flare at the Adrian 25 CPF, the Goetz 8 CPF, the Warner 22 CPF, and the Ruesink 16 CPF. This work was conducted using EPA Method 22. The results are contained on the pdf file *Visible Emission,* which is being submitted along with this response letter.

B.16
Savoy Energy hired Environmental Consulting Technology to determine if the Adrian 25 facility, Goetz 8 facility, Warner 22 facility or Ruesink facility, individually, constitute major source of hazardous pollutants (HAP). ECT's determination is included with this letter of response and can be found as pdf file *HAP Calculation*. Wayne Cockrum of ECT prepared this determination.

B.17
For each facility named below, the flare pilot light monitoring technology is described. Also provided are installation dates for said devices. This information was provided by Mike Beiler of Mike's Steamer Service.

- Adrian 25 CPF - Thermocouple senses pilot light; installed 7/24/14
- Goetz 8 CPF- Thermocouple senses pilot light; installed 7/23/14
- Ruesink 16 CPF- Visual verification of pilot light
- Warner 22 CPF- Visual verification of pilot light

B.18

Below is a summary by facility of maintenance and modifications made after April 29, 2014. This summary was provided by Mike Beiler of Mike's Steamer Service.

Adrian 25 CPF: all seals on tank hatches and pressure relief valves were changed and replaced with Viton seals. We changed all pneumatic controls from gas operated to compressed air. Tubed vents from packings on natural gas compressor to intake of engine. We installed a glycol separator on the dehydrator, ran a vent line from BTX relief on dehydrator to flare to prevent any venting. We installed shut down on the flare to shut facility in if the flare is out.

Goetz 8 CPF: all seals on tank hatches and pressure relief valves were changed and replaced with Viton seals. We changed all pneumatic controls from gas operated to compressed air. Tubed vents from packings on natural gas compressor to intake of engine, installed a BTX unit on the dehydrator. We installed shut down on flare to shut facility in if flare is out.

Ruesink 16 CPF: all seals on tank hatches and pressure relief valves were replaced with Viton seals.

Warner22 CPF: all seals on tank hatches and pressure relief valves were replaced with Viton seals.

B.19

An emission test was recently run on the compressor engine at the Adrian 25 facility and also on the compressor engine at the Goetz 8 facility. The results of these tests are included on pdf file *Emission Test*, which accompanies this response letter. This test was performed by Compressor and Engine Service LLC. Tom Watt, the owner of this company provided the documented results.